WHAT IS CLAIMED IS:

1. The method to compress and process for multi-screens digital video signals by multi-thread scaling, which uses a single integrated analog/digital converter for each

5   channel for compression/multi-screen process, comprising:

(a) a step to scale the resolutions of digital video signals outputted from analog/digital converters depending on the even/odd fields of the inputted video signals; and

(b) a step to compress or process for multi-screens the scaled digital video

10   signals according to the resolutions scaled in the said step (a).

2. The method for digital video signal compression/multi-screen process by multi-thread scaling according to claim 1, wherein:

at the said step (a), the video signals are scaled to have a resolution for

15   compression in the even field.

3. The method for digital video signal compression/multi-screen process by multi-thread scaling according to claim 2, wherein:

the resolution for compression is 352x240.

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4. The method for digital video signal compression/multi-screen process by multi-thread scaling according to claim 1, wherein:

at the said step (a), the video signals are scaled to have the resolutions for multi-screen process in the odd field.

5. The method for digital video signal compression/multi-screen process by multi-thread scaling according to claim 4, wherein:

the multi-screen process is the process for 4 screens, 9 screens or for 16 screens.

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6. The method for digital video signal compression/multi-screen process by multi-thread scaling according to claim 5, wherein:

the resolution for 4 screens is 360x240;

the resolution for 9 screens is 240x160; and

10   the resolution for 16 screens is 180x120.

7. The device for compression and multi-screen process of digital video signals by multi-thread scaling comprising:

multi-channel analog/digital converters, which generate even/odd field

15   indicators depending on the fields of the inputted multi-channel video signals and scale the resolution of each channel's video signals for compression or for multi-screen process while converting each channel's video signals into digital signals according to the even/odd fields;

a compression FIFO which stores, for compression, the video signals outputted

20   from each channel's analog/digital converter based upon the even/odd field indicator of the said analog/digital converter;

a multi-screen FIFO which stores, for multi-screen process, the video signals outputted from each channel's analog/digital converter based upon the even/odd field indicator of the said analog/digital converter;

a CPU which initializes each channel's analog/digital converter, the compression FIFO and the multi-screen FIFO, and controls each channel's analog/digital converter so that the converted digital video signals may be scaled into various resolutions depending on the fields of the inputted multi-screen video signals;

5   and

a video processor which transmits to the video memory the video signals which have been inputted to the said multi-screen FIFO according to the rules pre-determined for the multi-screen process.

10   8. The device for compression and multi-screen process of digital video signals by multi-thread scaling according to claim 7, wherein the analog/digital converters:

generate even field/odd field indicators, after being initialized by the said CPU;

store the digital video signals scaled to have the resolution of 352x240 in the compression FIFO,   if the field is even; and

15   store the digital video signals scaled to have the resolutions of 180x120 for 16 screens, 240x160 for 9 screens or 360x240 for 4 screens in the multi-screen FIFO, if the field is odd.

9. The device for compression and multi-screen process of digital video signals

20   by multi-thread scaling according to claim 7, wherein:

the said CPU is programmed to control the operation registers of the analog/digital converters so that the video signals may be scaled to have the resolutions of 180x120 for 16 screens, 240x160 for 9 screens, or 360x240 for 4 screens in the event that the field indicator is odd.